

Substitute for form 1449A/PTO

(use as many sheets as necessary)

Sheet 1 of 4

Complete if Known

Application Number	TBD
Filing Date	July 31, 2003
First Named Inventor	Steven MOORE et al.
Art Unit	TBD
Examiner Name	TBD
Attorney Docket Number	30287-103

Examiner Initials*	Cite No. 1	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code* (if known)			
JS		US- 3,678,204	07/18/1972	HARMUTH	
JS		US- 3,728,632	04/17/1973	ROSS	
JS		US- 4,447,747	05/08/1984	LAPOTIN	
JS		US- 4,641,317	02/03/1987	FULLERTON	
JS		US- 4,782,324	11/01/1988	UNDERWOOD	
JS		US- 4,979,186	12/18/1990	FULLERTON	
JS		US- 5,115,409	05/19/1992	STIEPP	
JS		US- 5,146,616	09/08/1992	TANG ET AL.	
JS		US- 5,157,559	10/20/1992	GLEASON ET AL.	
JS		US- 5,362,108	11/08/1994	FULLERTON	
JS		US- 5,515,014	05/07/1996	TROUTMAN	
JS		US- 5,574,755	11/12/1996	PERSICO	
JS		US- 5,587,687	12/24/1996	ADAMS	
JS		US- 5,635,863	06/03/1997	PRICE, JR.	
JS		US- 5,677,927	10/14/1997	FULLERTON ET AL.	
JS		US- 5,687,169	11/11/1997	FULLERTON	
JS		US- 5,687,200	11/11/1997	BERGER	
JS		US- 5,708,377	01/13/1998	BRADLEY	
JS		US- 5,714,954	02/03/1998	CHUNG ET AL.	
JS		US- 5,768,700	06/16/1998	KARDONCHIK	

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Examiner Signature	Brett Squires	Date Considered	02/02/05
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1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Completion if Known	
				Application Number	TBD
				Filing Date	July 31, 2003
				First Named Inventor	Steven MOORE et al.
				Art Unit	TBD
				Examiner Name	TBD
				Attorney Docket Number	30287-103
Sheet	2	of	4		

U.S. PATENT DOCUMENTS					
Examiner Initials ¹	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
B.8		US- 5,847,623	12/08/1998	HADJICHRISTOS	
B.8		US- 5,872,446	02/16/1999	CRANFORD, JR. ET AL.	
B.8		US- 5,900,747	05/04/1999	BRAUNS	
B.8		US- 5,986,501	11/16/1999	RAFATI ET AL.	
B.8		US- 6,026,125	02/15/2000	LARRICK, JR. ET AL.	
B.8		US- 6,031,862	02/29/2000	FULLERTON ET AL.	
B.8		US- 6,043,943	03/28/2000	REZZI ET AL.	
B.8		US- 6,054,889	04/25/2000	KOBAYASHI	
B.8		US- 6,061,551	05/09/2000	SORRELLS ET AL.	
B.8		US- 6,078,277	06/20/2000	CHENG ET AL.	
B.8		US- 6,087,871	07/11/2000	KARDO-SYSSOEV ET AL.	
B.8		US- 6,118,339	09/12/2000	GENTZLER ET AL.	
B.8		US- 6,178,217 B1	01/23/2001	DEFRIES ET AL.	
B.8		US- 6,281,822 B1	08/28/2001	PARK	
B.8		US- 6,351,652 B1	02/26/2002	FINN ET AL.	
B.8		US- 6,356,224 B1	03/12/2002	WOHLFARTH	
B.8		US- 6,433,720 B1	08/13/2002	LIBOVE ET AL.	
B.8		US- 6,539,213 B1	03/25/2003	RICHARDS ET AL.	
B.8		US- 6,580,902 B1	06/17/2003	SORRELLS ET AL.	
B.8		US- 2001/0019313A1	09/02/2001	TAKAHASHI ET AL	

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Examiner Signature	Brett Givires	Date Considered	02/02/05
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Substitute for form 1449B/PTO			Complete If Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Application Number	TBD
			Filing Date	July 31, 2003
			First Named Inventor	Steven MOORE et al.
			Group Art Unit	TBD
			Examiner Name	TBD
Sheet	Sheet No. 4	of 4	Attorney Docket Number	30287-103

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials [*]	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
B8		FERNANDO RAMIREZ-MIRELES, "On Performance of Ultra Wideband Signals in Gaussian Noise and Dense Multipath," Paper 99C265, Accepted for Publication in the IEEE Transactions on Vehicular Technology, Pages 1-9.	
B8		FERNANDO RAMIREZ-MIRELES et al., "N-Orthogonal Time-Shift-Modulated Codes for Impulse Radio," Communication Sciences Institute, Department of Electrical Engineering-Systems, University of Southern California, Los Angeles, CA 90089-2565 USA, Pages 1-4.	
B8		HENNING F. HARMUTH, "Fundamental Limits for Radio Signals With Large Bandwidth," IEEE Transactions on Electromagnetic Compatibility, Vol. EMC-23, No. 1, February 1981, Pages 37-43.	
B8		HENNING F. HARMUTH, "Frequency-Sharing and Spread-Spectrum Transmission with Large Relative Bandwidth," IEEE Transactions on Electromagnetic Compatibility, Vol. EMC-20, No. 1, February 1978, Pages 232-239.	
B8		HENNING F. HARMUTH, "Applications of Walsh functions in communications," IEEE Spectrum, November 1969, Pages 82-91.	
B8		AETHER WIRE & LOCATION, INC., ROBERT FLEMING et al., "Integrated, Low-Power, Ultra-Wideband Transceivers for Distributed Position Location and Communication," Technical Abstracts of Proposal to Defense Advanced Research Projects Agency (DARPA), Part I - Technical Proposal, 1998, Pages 1-52.	
B8		AETHER WIRE & LOCATION, INC., ROBERT FLEMING et al., "Low-Power, Miniature, Distributed Position Location and Communication Devices Using Ultra-Wideband, Nonsinusoidal Communication Technology," Semi-Annual Technical Report Prepared for: ARPA/FBI, July 1995, Pages 1-40.	

Examiner Signature	Brett Squires	Date Considered	02/02/05
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